



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,807	03/09/2001	Tae-Young Kil	P56258	1458

7590 11/28/2003

Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005-1202

EXAMINER

DANIEL JR, WILLIE J

ART UNIT	PAPER NUMBER
----------	--------------

2686

DATE MAILED: 11/28/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/801,807

Applicant(s)

KIL, TAE-YOUNG

Examiner

Willie J. Daniel, Jr.

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/09/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: .

DETAILED ACTION

Drawings

1. The drawings are objected to because of **Form PTO-948** section 10. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 and 17-24 are rejected under 35 U.S.C. 102(e) as being anticipated by McClelland et al. (US 6,330,438).

Regarding **Claim 1**, McClelland et al. discloses a method for alarming on occurrence of cell secession of a mobile station (ref. 18, 40, and 62; hereinafter ref. 18 will be used) in a mobile communication system (Fig. 2), comprising the steps of: receiving in a base station transceiver subsystem (64) in the mobile communication system power-related information transmitted from a corresponding mobile station (62) in the mobile communication system (see in col. 3, lines 38-41; col. 4, lines 4-12; Figs. 3, 4, and 5 [step 68]); analyzing the power-related information received to determine whether the corresponding mobile station (62) has seceded from a corresponding cell (64) in the mobile communication system (see col. 4, lines 4-33; Fig. 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell; and transmitting cell secession alarm information to the corresponding mobile station (62) when it is determined from the analyzed power-related information that the corresponding mobile station (62) has seceded from the corresponding cell (64) to enable the corresponding mobile station (62) to perform a cell

secession alarm operation (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell.

Regarding **Claim 2**, McClelland et al. discloses analyzing the power-related information step comprises the step of determining whether a power level of the corresponding mobile station (62) is less than a threshold, which hereinafter reads on the claimed “predetermined reference power level”, a power level less than the predetermined reference power level indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]).

Regarding **Claim 3**, McClelland et al. discloses step of transmitting cell secession alarm information comprises the step of transmitting a predetermined tone control message over a forward traffic channel (see Fig. 2, ref. 28 and 32; hereinafter 28 will be used) in the mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 4**, McClelland et al. discloses the cell secession alarm operation advising a user of the corresponding mobile station (62) of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 5**, McClelland et al. discloses the step of transmitting cell secession alarm information comprises the step of transmitting a predetermined tone control message over a forward traffic channel (28) in the mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile

Art Unit: 2686

communication system (see col. 3, lines 9-27; col. 3, lines 64 - col. 4, lines 38; Figs. 2, 4, and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell.

Regarding **Claim 6**, McClelland et al. discloses cell secession alarm operation advising a user of the corresponding mobile station of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 17**, McClelland et al. discloses an apparatus discloses for alarming on occurrence of cell secession of a mobile station (62) in a mobile communication system (Fig. 2), comprising: a base station transceiver subsystem (64) in the mobile communication system for receiving power-related information transmitted from a corresponding mobile station (62) in the mobile communication system (see in col. 3, lines 38-41; col. 4, lines 4-12; Figs. 3, 4, and 5 [step 68]); means for analyzing the power-related information received to determine whether the corresponding mobile station (62) has seceded from a corresponding cell (64) in the mobile communication system (see col. 4, lines 4-33; Fig. 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell; and means for transmitting cell secession alarm information to the corresponding mobile station (62) when the means for analyzing determines that the corresponding mobile station (62) has seceded from the corresponding cell (64) to enable the corresponding mobile station (62) to perform a cell secession alarm operation (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell.

Regarding **Claim 18**, McClelland et al. discloses the means for analyzing the power-related information comprising means for determining whether a power level of the corresponding mobile station (62) is less than a predetermined reference or threshold power level, a power level less than the predetermined power level indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]).

Regarding **Claim 19**, McClelland et al. discloses the means for transmitting cell secession alarm information comprising means for transmitting a predetermined tone control message over a forward traffic channel (28) in the mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 20**, McClelland et al. discloses the cell secession alarm operation advising a user of the corresponding mobile station (62) of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 21**, McClelland et al. discloses the mobile communication system being a cellular telephone network, which reads on the claimed "private radio mobile communication system" (see col. 2, line 52 - col. 3, line 8; Fig. 2).

Regarding **Claim 22**, McClelland et al. discloses the means for transmitting cell secession alarm information comprising means for transmitting a predetermined tone control message over a forward traffic channel (28) in the mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 3, lines 9-27; col. 3, lines 64 - col. 4, lines 38; Figs.

Art Unit: 2686

2, 4, and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell.

Regarding **Claim 23**, McClelland et al. discloses the cell secession alarm operation advising a user of the corresponding mobile station (62) of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 24**, McClelland et al. discloses the mobile communication system being a cellular telephone network, which reads on the claimed "private radio mobile communication system" (see col. 2, line 52 - col. 3, line 8; Fig. 2).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McClelland et al. (US 6,330,438)** in view of **Khan et al. (US 5,926,760)**.

Regarding **Claim 7**, **McClelland et al.** discloses a method for alarming on occurrence of cell secession of a mobile station (62) in a cellular network system (Fig. 2) which reads on the private radio mobile communication system, comprising the steps of: receiving power-related information transmitted from a corresponding mobile station (62) in a corresponding cell (64) in the private radio mobile communication system, (see in col. 3, lines 38-41; col. 4, lines 4-12; Figs. 3, 4, and 5 [step 68]); analyzing the power-related information received to determine whether the corresponding mobile station (62) has seceded from the corresponding cell (64) in the cellular telephone network (see col. 4, lines 4-33; Fig. 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit (62) has seceded from a cell (64); and transmitting predetermined cell secession alarm information to the corresponding mobile station (62), when it is determined from the analyzed power-related information that the corresponding mobile station has seceded from the corresponding cell and when the corresponding mobile station is registered to use a private radio communication service and is having an extension call with another registered mobile station, so as to enable the corresponding mobile station to perform a cell secession alarm operation (see col. 4, lines

Art Unit: 2686

24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell. The difference between McClelland et al. and the claimed is the lack of the system being private with registered users.

Khan et al. teaches of having a system in which a private base station (20) supports the registering of multiple mobile units (10 and 11) that can receive and make phone calls (see abstract; col. 1, lines 48-64; col. 4, lines 41-57; Fig. 1).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland et al. and Khan et al. to have a cellular telephone network that has private radio communication service.

The advantage of combining the teachings of McClelland et al. and Khan et al. is to have a privately based radio communication system with registered mobile units that can make and receive calls.

Regarding **Claim 8**, the combination of McClelland et al. and Khan et al. discloses everything claimed, as applied above (see claim 7), in addition McClelland et al. further teaches the step analyzing the power-related information comprises the step of determining whether a power level of the corresponding mobile station (62) is less than a predetermined reference power level, a power level less than the predetermined reference power level indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the private radio mobile communication system or cellular telephone network (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]).

Regarding **Claim 9**, the combination of McClelland et al. and Khan et al. discloses everything claimed, as applied above (see claim 8), in addition McClelland et al. further

Art Unit: 2686

teaches the step of transmitting predetermined cell secession alarm information comprises the step of transmitting a predetermined tone control message over a forward traffic channel (28) in the private radio mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the private radio mobile communication system (see col. 4, lines 13-38; Figs. 4 and 5 [step 72])

Regarding **Claim 10**, the combination of McClelland et al. and Khan et al. discloses everything claimed, as applied above (see claim 9), in addition McClelland et al. further teaches the cell secession alarm operation advising a user of the corresponding mobile station (62) of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 11**, the combination of McClelland et al. and Khan et al. discloses everything claimed, as applied above (see claim 7), in addition McClelland et al. further teaches McClelland et al. discloses the step of transmitting predetermined cell secession alarm information comprises the step of transmitting a predetermined tone control message over a forward traffic channel (28) in the private radio mobile communication system indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the private radio mobile communication system (see col. 3, lines 9-27; col. 3, lines 64 - col. 4, lines 38; Figs. 2, 4, and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell.

Regarding **Claim 12**, the combination of McClelland et al. and Khan et al. discloses everything claimed, as applied above (see claim 7), in addition McClelland et al. further teaches the cell secession alarm operation advising a user of the corresponding mobile station (62) of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Claims 13 - 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **McClelland et al. (US 6,330,438)** in view of **Hong (US 6,298,241)**.

Regarding **Claim 13**, **McClelland et al.** teaches of a method for alarming on occurrence of cell secession of a mobile station (62) in a mobile communication system, comprising the steps of: receiving in a base station transceiver subsystem (64) in the mobile communication system a power control parameter of a corresponding mobile station in the mobile communication system from a corresponding base station controller (64b) in the mobile communication system (see col. 4, lines 5-13); determining when the determined power level of the corresponding mobile station (62) decreases below a predetermined reference power level, a determined power level less than the predetermined reference power level indicating the corresponding mobile station (62) has seceded from a corresponding cell in the mobile communication system (see col. 4, lines 5-38; Figs. 4 and 5 [step 68]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell; and transmitting cell secession alarm information to the corresponding mobile station (62) when the determined power level is less than the predetermined reference power level indicating the corresponding mobile station (62) has seceded from the corresponding cell (64) in the mobile communication system (see col. 4, lines 24-38; Figs. 4 and 5 [step 72]), when the power level falls below the threshold this indicates that a mobile unit has seceded from a cell. The difference between **McClelland et al.** and the claimed is **McClelland** fails to teach of the received power from mobile unit based on received power from base station and frame error measurement.

Hong teaches of receiving by the base station transceiver subsystem information as to a received power level from the corresponding mobile station, the received power level being determined by the corresponding mobile station measuring received power from the base station transceiver subsystem (see col. 4, lines 38-59; Fig. 6a [s521]; detecting by the base station transceiver subsystem information as to a frame quality by determining a forward frame error rate from the received information as to the received power level from the corresponding mobile station (see col. 4, lines 38-59; Fig. 6a [s521]; comparing the determined forward frame error rate with a value corresponding to the threshold which reads on the claimed "power control parameter" received from the corresponding base station controller to provide a determined power level of the corresponding mobile station (see col. 4, line 38 - col. 5, lines 6).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland et al. and Hong to have the received power from mobile unit based on received power from base station and frame error measurement.

The advantage of combining the teachings of McClelland et al. and Hong is to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 14**, McClelland et al. fails to disclose the including of at least one of a power measurement report message as to the received power level from the corresponding mobile station and an erasure indicator bit as to an error detected field. Hong teaches a power measurement report message as to the received power level from the

corresponding mobile station and an erasure indicator bit as to an error detected field (see col. 4, lines 38-52; Fig. 6a).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of McClelland et al. and Hong to have the information as to the received power level from the corresponding mobile station including at least one of a power measurement report message as to the received power level from the corresponding mobile station and an erasure indicator bit as to an error detected field.

The advantage of combining the teachings of McClelland et al. and Hong is to improve signal quality by adjusting the power and to deteriorate the frame error rate of a signal in a wireless communication system.

Regarding **Claim 15**, the combination of McClelland et al. and Hong discloses everything claimed, as applied above (see Claim 14), in addition McClelland et al. further teaches the cell secession alarm operation advising a user of the corresponding mobile station of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).

Regarding **Claim 16**, the combination of McClelland et al. and Hong discloses everything claimed, as applied above (see claim 13), in addition McClelland et al. further teaches the cell secession alarm operation advising a user of the corresponding mobile station of a possible call drop (see col. 3, lines 9-27; col. 4, lines 13-38; Figs. 4 and 5 [step 72]).


Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- a. **McCarthy (US 5,373,548)** discloses *Out- of-Range Warning System For Cordless Telephone*.
 - b. **Smolik (US 6,381,455)** discloses System and Method for *Warning of and Providing Greater Immunity From an Impeding Call Drop in a Digital Wireless System*.
 - c. **Chang (US 6,188,890)** discloses *Preventing Wireless Telecommunications Calls From Being Disconnected Due to Low Signal Quality*.
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Willie J. Daniel, Jr. whose telephone number is (703) 305-8636. The examiner can normally be reached on 7:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (703) 305-4379. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-3180.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-5424.

WJD,JR/wjd,jr
21 November 2003


CHARLES APPIAH
PRIMARY EXAMINER